

102704

18379 U.S. PTO

PTO/SB/50 (09-04)

Approved for use through 04/30/2007. OMB 0651-0033

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REISSUE PATENT APPLICATION TRANSMITTAL

Address to: Mail Stop Reissue Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Attorney Docket No.	JWB-2000-5-P (REISSUE)
	First Named Inventor	William G. Cummings et al.
	Original Patent Number	6,474,006 B1
	Original Patent Issue Date (Month/Day/Year)	11/05/2002
	Express Mail Label No.	EU055389792US

17513 U.S. PTO
10/974957

102704

APPLICATION FOR REISSUE OF:
(Check applicable box) ☒ Utility Patent ☐ Design Patent ☐ Plant Patent

APPLICATION ELEMENTS (37 CFR 1.173)

1. ☒ Fee Transmittal Form (PTO/SB/56) (Submit a duplicate copy)
2. ☒ Applicant claims small entity status. See 37 CFR 1.27.
3. ☒ Specification and Claims in double column copy of patent format (amended, if appropriate)
4. ☒ Drawing(s) (proposed amendments, if appropriate)
5. ☒ Reissue Oath/Declaration (original or copy) (37 C.F.R. 1.175) (PTO/SB/51 or 52)
6. ☒ Power of Attorney
7. ☐ Original U.S. Patent currently assigned? ☐ Yes ☒ No
(If Yes, check applicable box(es))
☐ Written Consent of all Assignees (PTO/SB/53)
☐ 37 CFR 3.73(b) Statement (PTO/SB/96)
8. ☐ CD-ROM or CD-R in duplicate, Computer Program (Appendix or large table)
☐ Landscape Table on CD
9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, items a. - c. are required)
a. ☐ Computer Readable Form (CRF)
b. Specification Sequence Listing on:
i. ☐ CD-ROM (2 copies) or CD-R (2 copies); or
ii. ☐ paper
c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

10. ☐ Statement of status and support for all changes to the claims. See 37 CFR 1.173(c).
11. ☐ Foreign Priority Claim (35 U.S.C. 119) (if applicable)
12. ☐ Information Disclosure Statement (IDS) PTO/SB/08 or PTO-1449
☐ Copies of citations attached
13. ☐ English Translation of Reissue Oath/Declaration (if applicable)
14. ☒ Preliminary Amendment
15. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
16. ☐ Other:

17. CORRESPONDENCE ADDRESS

☐ The address associated with Customer Number: OR ☒ Correspondence address below

Name	James W. Badie, Esq. Stoll, Miskin & Badie				
Address	The Empire State Building, 350 Fifth Avenue, Suite 4710				
City	New York	State	New York	Zip Code	10118
Country	USA	Telephone	(212) 244-5632	Fax	244-1364
Signature				Date	10-27-04
Name (Print/Type)	James W. Badie			Registration No. (Attorney/Agent)	20968

This collection of information is required by 37 CFR 1.173. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Reissue, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

ALL-STATE LEGAL®

EXHIBIT

5



US006474006B1

(12) **United States Patent**
Cummings et al.

(10) Patent No.: **US 6,474,006 B1**
(45) Date of Patent: **Nov. 5, 2002**

(54) **STABILIZER ATHLETIC SHOES**

(76) Inventors: William G. Cummings, 336 Briarty
Dr., Franklin Lakes, NJ (US) 07417;
Jay G. Levine, 5 Walnut Cl., New City,
NY (US) 10956

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/617,732

(22) Filed: Jul. 17, 2000

(51) Int. Cl.⁷ A61F 5/14; A43B 7/14

(52) U.S. Cl. 36/142; 36/88; 36/25 R;
36/144

(58) Field of Search 36/25 R, 142,
36/143, 144, 103, 127, 88, 92

(56) **References Cited**

U.S. PATENT DOCUMENTS

211,017 A * 12/1878 Hughes et al. 36/69
912,862 A * 2/1909 Lendgren 36/69

2,179,942 A * 11/1939 Lyne 36/127
2,616,190 A * 11/1952 Darby 36/144
2,847,769 A * 8/1958 Schlesinger 36/127
3,218,734 A * 11/1965 O'Brien 36/127
4,073,075 A * 2/1978 O'Brien 36/127
4,118,034 A * 10/1978 O'Brien 36/127
4,402,146 A * 9/1983 Parracho et al. 36/129
4,484,397 A * 11/1984 Curley, Jr. 36/132
4,620,376 A * 11/1986 Talarico, II 36/103
4,685,227 A * 8/1987 Simmons 36/127
4,748,753 A * 6/1988 Ju 36/127
4,866,861 A * 9/1989 Noone 36/127
5,345,701 A * 9/1994 Smith 36/144
5,448,839 A * 9/1995 Blissell et al. 36/25 R

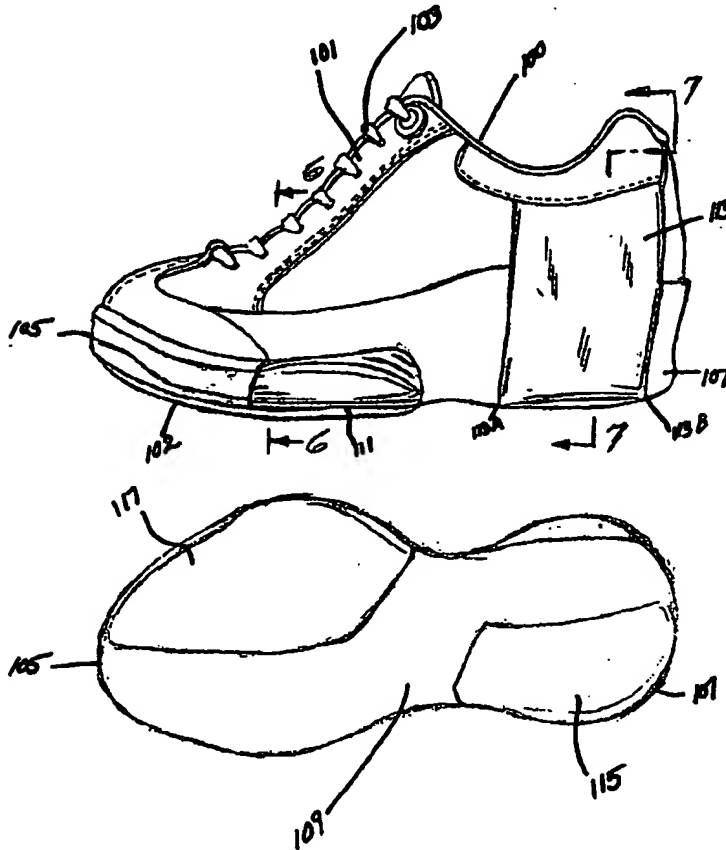
* cited by examiner

Primary Examiner—M. D. Patterson

(57) **ABSTRACT**

An athletic shoe is provided which contributes to dynamic
stability of the shoe during several athletic activities. The
athletic shoe comprises a tapered lateral wedge section and
may further include a lateral heel stabilizer, a medial heel
wedge and a tapered lateral forefoot section.

4 Claims, 3 Drawing Sheets



STABILIZER ATHLETIC SHOES

FIELD OF THE INVENTION

This invention relates generally to athletic shoes and particularly to stabilizer athletic shoes for persons engaged in athletic activities. More specifically, this invention relates to an improved athletic shoes construction which incorporate features designed to increase foot and ankle stability during various athletic activities in order to decrease muscle fatigue, enhance performance and minimize injuries.

BACKGROUND OF THE INVENTION

Various athletic shoes are presently being marketed for different activities such as running, tennis, basketball, racquetball and golf. These shoes are designed to prevent, or at least minimize injuries caused by lateral foot ankle instability during such activities. Current athletic shoes do not adequately guard against injuries caused by all type of athletic activities, including those activities which involve side-to-side jumping motions. These activities have greater tendency for lateral foot ankle instability, and hence injury to the foot and/or ankle.

U.S. Pat. No. 3,738,373, issued Jun. 12, 1973 describes an athletic shoe which incorporates a flexible wedge mounted therein which extends completely to the rear edge of the heel thereby providing maximum "cushion".

An earlier patent, U.S. Pat. No. 2,847,769, issued Aug. 19, 1958 discloses shoes for golfers which are designed to compel a golfer to automatically assume the correct golf stance.

Other athletic shoes incorporate air-cushioning means, usually in the heels, for absorbing the impact experienced during said activities.

So far as it is known, there is no single pair of athletic shoes which adequately affords the desired degree of protection and guards against injuries resulting from foot instability during athletic activities of the type hereinbefore mentioned. This is largely because the foot-ankle structure is complex and includes numerous joint axis with different movements and displacements in response to varying impacts and positions. Thus, the design of an athletic shoe which can protect against the different possible injuries resulting from a variety of athletic activities must take into consideration such factors as supination, pronation, dorsiflexion, plantarflexion, abduction, and adduction which occur at the foot-ankle joint during said sports activities. Accordingly, there is need for a single athletic shoe which is designed to afford maximum benefits for those engaged in various athletic activities in which foot-ankle injuries are matter of common experiences.

It is therefore an object of the present invention to provide an athletic shoe which is designed to afford maximum protection against injuries resulting from sports activities involving jumping and side-to-side motions such as, e.g., running, jogging, basketball, tennis and racquetball.

It is a further object of this invention to provide athletes with athletic shoes which incorporate features that counter the adverse effects of such factors as supination, pronation, dorsiflexion, plantarflexion, abduction and adduction experienced by athletes during several athletic activities.

The foregoing and other objects of this invention will become more apparent from the following detailed description and accompanying drawings.

SUMMARY OF THE INVENTION

In accordance with the present invention an athletic shoe is provided which, because of its unique construction,

assures dynamic foot stability, reduces lateral ankle instability and alleviate foot fatigue which often results from athletic activities such as jogging, running, tennis, basketball, jumping and even weight lifting exercises. In one embodiment, the athletic shoe comprises heel and a sole having a rear foot portion and a forefoot portion which has a medial section and a lateral section. The forefoot portion has a lateral wedge conformally affixed thereto or formed, integrally therewith, said lateral wedge member being tapered from the medial section toward the lateral mid portion of the forefoot.

In a second embodiment, the shoe is similar to the first embodiment and further includes a lateral heel stabilizer conformally attached to the heel counter, a medial heel wedge spanning the length and width of the shoe heel, and a tapered lateral forefoot member attached to the bottom sole of the shoe.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, wherein the same reference numerals in the different figures designate like parts:

FIG. 1 is a side elevational partly perspective view of an athletic shoe incorporating a lateral forefoot wedge in accordance with one embodiment of the present invention;

FIG. 2 is a bottom view of the shoe shown in FIG. 1;

FIG. 3 is a sectional view taken along the line 3—3 of FIG. 1;

FIG. 4 is a side elevational, partly perspective view of an athletic shoe made according to another embodiment of this invention;

FIG. 5 is a bottom view of the shoe shown in FIG. 4;

FIG. 6 is a view taken along the line 6—6 of FIG. 4; and

FIG. 7 is a view taken along the line 7—7 of FIG. 4;

FIGS. 1-7 illustrate the left shoe, it being understood that the right shoe is similar in construction with the specific features being located on opposite side of the shoe.

DETAILED DESCRIPTION OF DIFFERENT EMBODIMENTS THE INVENTION

Referring to FIGS. 1-3, there is shown, in FIG. 1, a sport shoe 10 having a flexible top portion 11 mounted on top of the shoe sole 12 and is tied around the top portion 11 by the shoe lace 13. The sole 12 extends from the toe portion 15 to the heel portion 17 which may be rigid or semi-rigid in construction. The bottom or outsole 19 (see FIG. 2) may be ribbed, grooved or patterned as desired. For the purposes of use in some sports, the heel may be cushioned, or rendered resilient and capable of absorbent shocks upon impact by including air ducts, air pellets or spring means between the heel and the sole. Such constructions are well known in the prior art. For the purposes of this invention, in the embodiment shown in FIGS. 1-3, the shoe is provided with an external lateral forefoot stabilizer 21 which is formed as an integral part of the shoe conformally contouring the lateral forefoot portion of the shoe. The lateral forefoot stabilizer 21 is preferably about $\frac{1}{8}$ to about $\frac{1}{4}$ inch thick and is attached to the edge of the sole, with its thickness increasing gradually toward the lateral side where it is at its greatest thickness. The lateral forefoot stabilizer 21 extends a distance of from about 2 to about 4 inches, from the middle toward the toe portion 15, thus extending from the 5th toe proximal to the 5th metatarsal base. The lateral forefoot stabilizer 21 may be made of the same material used in forming the shoes, generally hard rubber, neoprene or a plastic, such as a copolymer of ethylene and vinyl acetate

(EVA). The provision of the lateral forefoot wedge 21 will accomplish two goals, i.e., locking the metatarsal joint at propulsive phase of gait thus producing a stronger lever arm which results in increased push-off power. In addition, it decreases lateral ankle instability in the types of sport activities which require excessive medial to lateral movements.

Referring now to the embodiment of this invention illustrated in FIGS. 4-7, there is shown, in FIG. 4, an athletic shoe generally designated as 100 having a flexible top portion 101 mounted on top of the shoe sole 102 and tied around the top foot portion 101 by the shoe lace 103. The sole 102 extends from the toe portion 105 to the heel portion 107 which may be rigid or semi-rigid in construction. The bottom shoe sole 109 may be ribbed, grooved or patterned as desired. As in the embodiment shown in FIGS. 1-3, the heel may be cushioned or rendered resilient so as to withstand the impacts experienced by athletes during jumping, running, jogging and other foot-to-ground impact producing activities.

In this embodiment of the invention, and as seen in FIGS. 4-7, the shoe 100 is provided with an external lateral forefoot stabilizer 111, a lateral heel stabilizer 113, a medial heel wedge 115 and a bottom forefoot wedge 117, all of which contribute to the rigidity and dynamic stability of the shoe.

The lateral forefoot stabilizer 111 serves a similar function and purpose as the lateral forefoot stabilizer 21 described in conjunction with FIG. 1. The lateral forefoot stabilizer 111 is made of plastic or rubber, the same as the shoe, is disposed proximal to the 5th metatarsal, is conformably attached laterally to the shoe, extending about 1 to 3 inches from the middle toward the toe portion 105. The provision of the lateral forefoot stabilizer 111 guards against lateral instability of the foot and the ankle (sprains and strains) and excessive frontal plane motions.

The lateral heel stabilizer 113 is a piece of rubber or plastic (EVA) which is about 2 to 3 inches wide, about 2-3 inches high (depending on the height of the shoe) and is about 1/4 to 1/2 inch thick. The lateral heel stabilizer 113 is attached to the rear exterior of the shoe above the heel 107 extending from the proximal end 113B to the distal end 113A near the top of the shoe, thus adding firm support to the lateral heel and reducing lateral ankle sprains experienced in sports such as basketball and tennis. It also provides added stability and push-off power in such activity as weight lifting.

The athletic shoe 100 also comprises a medial heel wedge 115, which may be ribbed, grooved or patterned as desired, and it is incorporated into the heel structure and/or affixed thereto at about 2 to 5 degrees relative to the ground. As shown in FIG. 5, the wedge 115 spans the entire length and approximately 1/2 of the width of the heel with the highest part of the wedge being at the medial inner heel. Thus, the

rear of the athletic shoe will have a mild tilt outward, i.e., away from the body. The incorporation of the medial heel wedge in the athletic shoe as aforesaid limits the pronation and inversion of the foot as the heel strikes the ground. It is a matter of common experience that most overuse syndrome, including plantar fasciitis, posterior tibial medial tendinitis, knee and lower back pain are due to, or exacerbated by over pronation or an exaggerated inward rolling of the foot. By providing a medial heel wedge as herein described, pronation will be effectively reduced, foot and leg fatigue will be alleviated and foot stability is increased, all of which contribute to dynamic stability during athletic performance.

Referring again to FIG. 5, the shoe 100 is provided, at its bottom, with a tapered lateral forefoot wedge 117 conformably contoured to the forefoot, which is approximately 1/4 to 1/2 inch thick, and is tapered medial to lateral from the middle forefoot, with its thickest part being at the lateral side. In orthopedic jargon, the forefoot wedge 117 extends from the 5th toe proximal to the 5th metatarsal base. As previously mentioned, the inclusion of the lateral foot wedge in the shoe results in a more vertical push-off power and decreases lateral ankle stability whenever excessive medial to lateral movements are encountered.

It can be appreciated from the foregoing description of the different embodiments of the novel athletic shoes that several changes and modifications may be made in the structure of the shoe which are suggested by the description and the drawings herein. Such changes and modifications are nevertheless within the scope of the present invention.

What is claimed is:

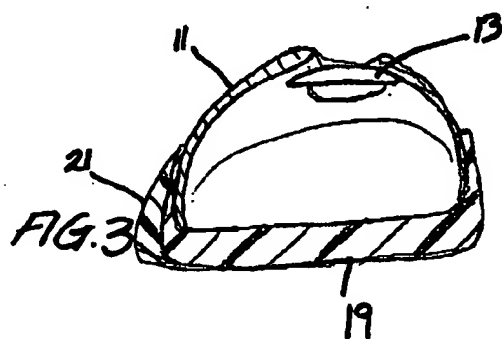
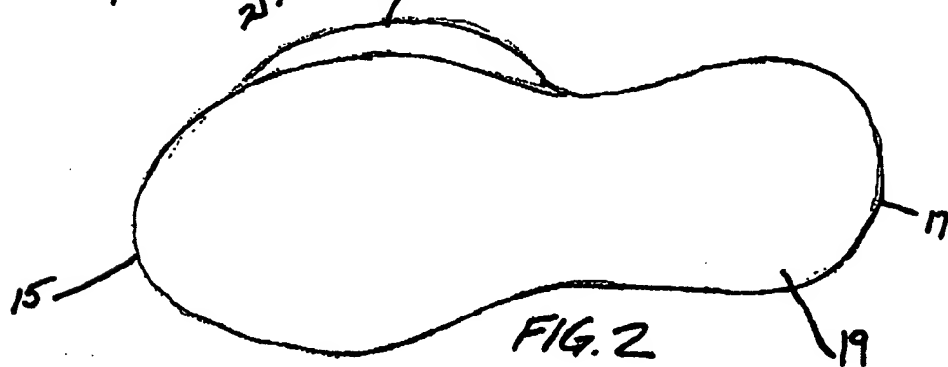
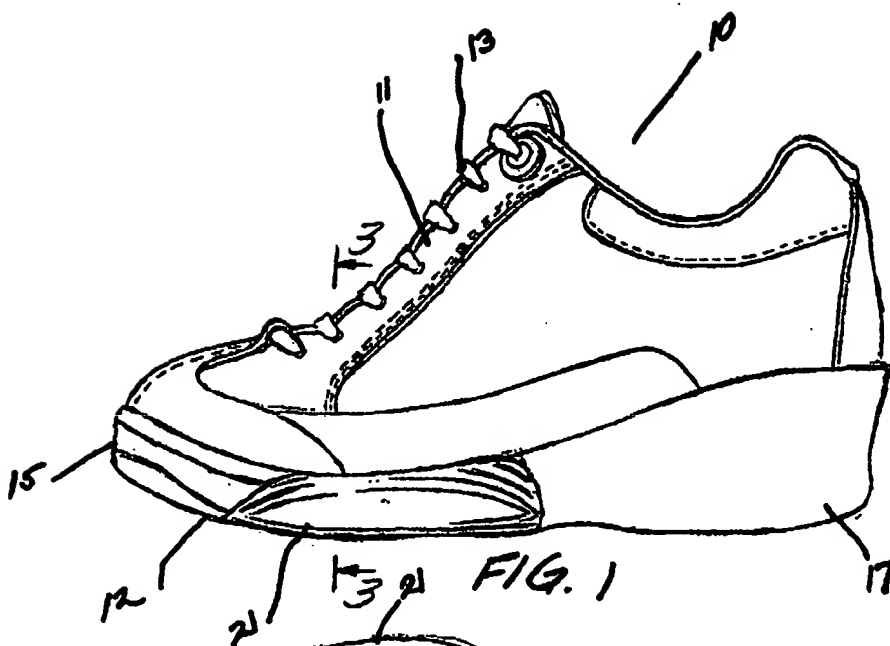
1. A stabilizer athletic shoe comprising a sole having a bottom portion, a forefoot having a top portion, a rearfoot portion, an edge and a heel portion, said forefoot portion having a medial part and a lateral part, an external lateral foot stabilizer attached to the edge of said sole, a bottom forefoot wedge member attached to the bottom of said sole, a medial heel wedge having a bottom portion wherein said heel wedge spans substantially the entire length, and about one-half the width of said heel, and a heel stabilizer extending from the bottom portion of said heel to the top of the rearfoot portion.

2. A stabilizer athletic shoe as in claim 1 wherein said external lateral foot stabilizer is from about 1/4 to about 1/2 inch thick, with the thickness increasing from said medial part to said lateral part of said forefoot portion.

3. A stabilizer athletic shoe as in claim 1 wherein said bottom forefoot wedge member and said lateral foot stabilizer partly overlap one another.

4. A stabilizer athletic shoe as in claim 2 wherein said bottom forefoot wedge member and said lateral foot stabilizer partly overlap one another.

* * * * *



REISSUE APPLICATION DECLARATION BY THE INVENTOR

Docket Number (Optional)

JWB-2000-5-P (REISSUE)

I hereby declare that:

Each inventor's residence, mailing address and citizenship are stated below next to their name.

I believe the inventors named below to be the original and first inventor(s) of the subject matter which is described and claimed in patent number 6,474,006 B1, granted 11/05/2002 and for which a reissue patent is sought on the invention entitled Stabilizer Athletic Shoes

the specification of which



is attached hereto.



was filed on _____ as reissue application number _____

and was amended on _____
(If applicable)

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.



I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b). Attached is form PTO/SB/02B (or equivalent) listing the foreign applications.

I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)



by reason of a defective specification or drawing.



by reason of the patentee claiming more or less than he had the right to claim in the patent.



by reason of other errors.

At least one error upon which reissue is based is described below. If the reissue is a broadening reissue, such must be stated with an explanation as to the nature of the broadening:

[Page 1 of 2]

This collection of information is required by 37 CFR 1.175. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

10/29/2004 LNDMDIM1 00000049 10974957

01 FC:2004	395.00 DP
02 FC:2204	44.00 DP
03 FC:2205	54.00 DP

PTO-1556
(5/87)

Attorney Docket: JWB-2000-5-P

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. : 6,474,006 B1
Issue Date : November 5, 2002
Inventors : William G. Cummings et al.
Serial No. : 09/617,732
For : Stabilizer Athletic Shoes
Art Unit : 3728
Examiner : M.D. Patterson

PRELIMINARY AMENDMENT

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SIR:

Concurrent with filing the present reissue application, kindly add claims 5-10, as set forth below, to the reissue application.

5. A stabilizer athletic shoe comprising a sole having a bottom portion, a forefoot having a top portion, a rear foot portion, an edge and a heel portion, said forefoot portion having a medial part and a lateral part, and a lateral foot stabilizer integral with the edge of said sole.

6. A stabilizer athletic shoe as in claim 5 wherein said lateral foot stabilizer is from about $\frac{1}{8}$ to about $\frac{1}{4}$ inch thick, with the thickness increasing from said medial part to said lateral part of said forefoot portion.

7. A stabilizer athletic shoe as in claim 5 further including a forefoot wedge member.

8. A stabilizer athletic shoe as in claim 7 wherein said forefoot wedge member and said lateral foot stabilizer partly overlap each other.

9. A stabilizer athletic shoe as in claim 7 wherein said lateral foot stabilizer is from about $\frac{1}{8}$ to about $\frac{1}{4}$ inch thick, with the thickness increasing from said medial part to said lateral part of said forefoot portion.

10. A stabilizer athletic shoe as in claim 8 wherein said lateral foot stabilizer is from about $\frac{1}{8}$ to about $\frac{1}{4}$ inch thick, with the thickness increasing from said medial part to said lateral part of said forefoot portion.

REMARKS

The above-referenced patent has been amended by adding claims 5-10 inclusive to this reissue application. No other amendment has been made either in the specification or claims as originally filed.

In addition, applicants wish to bring to the attention of the Patent Office that the original patent is currently in litigation.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. W. Badie', is written over a horizontal line.

James W. Badie, Reg. No. 20,968
Attorney for Inventors
Stoll, Miskin & Badie
The Empire State Building
350 Fifth Avenue, Suite 4710
New York, New York 10118
Telephone: (212) 244-5632